Claims

What is claimed is

1. A method of identifying a polypeptide using a C1q derived molecule as a tracer molecule in fluorescence polarization.

2. The method of claim 1, wherein said tracer molecule is gC1q.

3. The method of claim 1, wherein said tracer molecule is gaC1q.

4. The method of claim 1, wherein said tracer molecule is gbC1q.

5. The method of claim 1, wherein said tracer molecule is gcC1q.

6. The method of claim 1, wherein said tracer molecule is any combination of gC1q, gaC1q, gbC1q or gcC1q, and wherein said molecule is less than about 65 kDa.

7. The method of any one of claims 1-6, wherein said polypeptide is an immune complex.

8. A method of identifying a polypeptide using a recombinant molecule as a tracer molecule in fluorescence polarization, wherein said molecule is structurally or functionally similar to the C1q A chain (**Seq. I.D. No. 2**).

9. A method of identifying a polypeptide using a recombinant molecule as a tracer molecule in fluorescence polarization, wherein said molecule is structurally or functionally similar to the C1q B chain (**Seq. I.D. No. 3**).

10. A method of identifying a polypeptide using a recombinant molecule as a tracer molecule in fluorescence polarization, wherein said molecule is structurally or functionally similar to the C1q C chain (**Seq. I.D. No. 4**).

11. A method of identifying a polypeptide using a recombinant molecule as a tracer molecule in fluorescence polarization, wherein said tracer molecule is a combination of molecules that are structurally or functionally similar to the C1q A, B or C chains (**Seq. I.D. No. 2, 3 or 4**).

12. The method of any one of claims 8-11 wherein said polypeptide is an immune complex.

13. A molecule which can be used as a tracer molecule in fluorescence polarization, wherein said molecule is genetically engineered from the globular head of C1q to have a higher binding affinity to a Glu-X-Lys-X-Lys motif than said globular head before said genetic engineering, wherein X is an amino acid.

14. A molecule which can be used as a tracer molecule in fluorescence polarization, wherein said molecule is genetically engineered from a C1q fragment chosen from the group consisting of gaC1q, gbC1q or gcC1q, to have a higher binding affinity to a Glu-X-Lys-X-Lys motif than the C1q fragment before said genetic engineering, wherein X is an amino acid.

15. A polypeptide genetically engineered to include a Glu-X-Lys-X-Lys motif, wherein X is an amino acid and, said polypetide emits non-polarized fluorescent light when unbound to tracer molecule, and said molecule and said polypeptide emit polarized fluorescent light when bound to each other.

16. A polypeptide genetically engineered to include a Glu-X-Lys-X-Lys motif, wherein X is an amino acid and, said polypetide emits non-polarized fluorescent light when unbound to a C1q derived molecule, and said molecule and said polypeptide emit polarized fluorescent light when bound to each other.

17. A method of identifying a polypeptide comprising using a non-polypeptide chemical compound that binds a Glu-X-Lys-X-Lys motif as a tracer molecule in fluorescence polarization.

18. A molecule comprising a non-polypeptide compound which binds the core motif of the Fc region of an immunoglobulin wherein said molecule emits non-polarized

fluorescent light when unbound to an antigen-antibody complex and emits polarized fluorescent light when bound to an antigen-antibody complex.

19. A method of producing recombinant C1q fragments comprising cloning of C1q coding sequences into expression vectors and the expression of C1q recombinant proteins using such vectors in prokaryotic or eukaryotic cells, wherein said fragment emits non-polarized fluorescent light.